

**REDESCRIPTION OF *CULEX (MELANOCONION) DELPONTEI*
DURET, 1968 AND *CX. (MEL.) PEREYRAI* DURET, 1967,
FROM SOUTHERN BRAZIL**

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Abstract.—Adults of both sexes of *Culex (Melanoconion) delponte* Duret and *Cx. (Mel.) pereyrai* Duret, are redescribed and illustrated. Diagnostic characters for separating these from similar species of the Spissipes Section of subgenus *Melanoconion* are given. Distribution and epidemiological aspects are considered.

Key Words: Insecta, Diptera, Culicidae, *Culex*, *Melanoconion*, Brazil

Recent publication of arbovirus investigation in Argentina (Mitchell et al. 1985, 1987a), report the isolation of several viral strains from *Culex (Melanoconion)*, many obtained from *Cx. delponte* Duret. Various strains were isolated including several belonging to the Venezuelan equine encephalitis virus (VEE) complex. *Culex delponte* is now considered as important arbovirus vector, but much about this species remains unknown, including characters for identification.

During studies on the mosquitoes of the Ribeira Valley and other regions of São Paulo State, Brazil, several adults of *Cx. delponte* and *Cx. pereyrai* Duret, were collected. We take this opportunity to redescribe them with the objective of achieving a better characterization for purposes of identification. Ideally types should be examined, but, as far as is known, they were retained in the collection of the author of species and so of no easy access. By other side, descriptions of these species are well enough illustrated to leave no doubts about their identities.

The terminology of Harbach and Knight (1980) was utilized for the descriptions, ex-

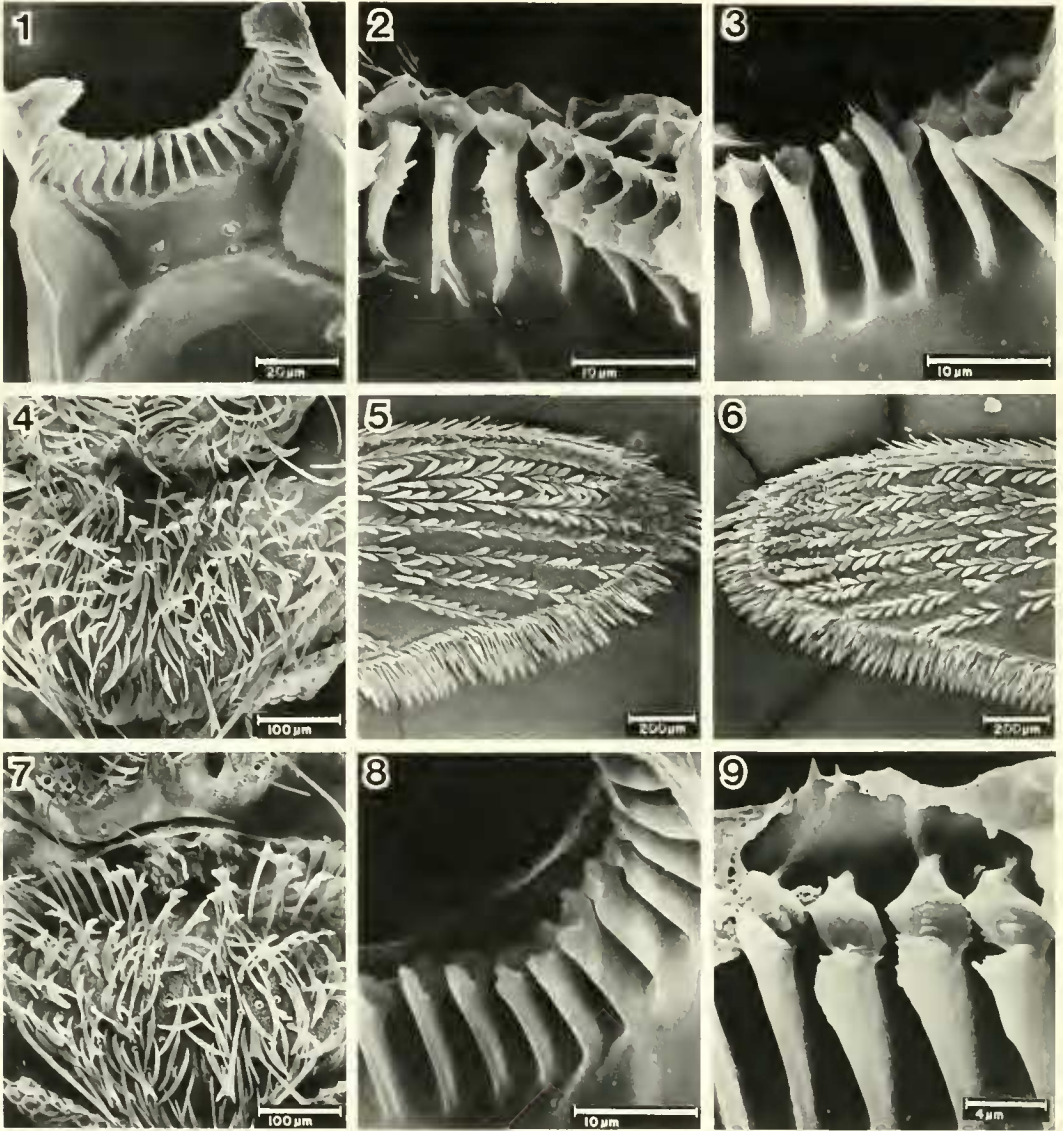
cept for the wing veins which follow Belkin (1962).

Culex (Melanoconion) delponte Duret
Figs. 1-6, 10, 11 and 13

Culex (Melanoconion) paracrybda of Duret 1953: 119.

Culex (Melanoconion) delponte Duret 1968: 8 (type not seen; type locality Argentina, Chaco, Las Palmas; holotype deposited in the collection of the author of specie (Knight and Stone 1977)). Sirivanakarn and Jakob 1981: 199.

Female.—**Head:** Antenna dark, length about 2.00 mm; flagellum normal, whorls normally with 6 setae. Proboscis entirely dark-scaled; length 1.66-1.88 mm, mean 1.72 mm. Maxillary palpus entirely dark-scaled; length 0.28-0.33 mm, mean 0.30 mm, about 0.17 of the proboscis length. Vertex (Fig. 4) with narrow falcate scales in a small median dark patch, between pale whitish ones, broad appressed dingy white in small lateral patch; forked scales dark. Occipital region with some pale whitish falcate scales. *Cibarial armature* (Figs. 1, 2, 3



Figs. 1-9. Adult structures. *Culex delpontei*. 1, female cibarial armature. 2,3, cibarial teeth. 4, vertex and occipital region. 5, dorsal view of right wing. 6, ventral view of right wing. *Culex pereyrai*. 7, vertex and occipital region. 8, cibarial teeth. 9, cibarial teeth showing thorn-shaped processes on the posterior border of the cibarial bar.

and 10). Cibarial bar developed, moderately chitinized, strongly concave, with about 22 small cibarial teeth arranged in single row, with sizes gradually smaller laterally where they may be visible in lateral profile; many irregular chitinized folds on posterior border of cibarial bar where folds sometimes

end as minute prickles; cibarial teeth laminar shaped with two recognized parts, anterior and posterior; the first one, including nearly third or fourth total tooth dorsal length, as a thin sagittal plate; second one as transversal plate, lozenge or hexagonally roughly outlined; minute irregularly disposed prick-

les may be seen at the margins of both parts. Cibarial dome nearly circular, concave cap covered by superficial denticles. *Thorax*: Scutal integument brown or dark brown, except yellow paratergite; scutum almost entirely covered by uniform fine falcate dark bronzy scales, with some colorless ones on prescutellar area; scutal setae conspicuous (acrostichal setae absent), brownish black with reddish sheen; antealar setae, shiny yellow to golden. Scutellar scales as scutal scales; lateral lobe each with 3–5 large setae, median lobe with 5,6 large setae. Antepnotum dark, without scales, with scattered dark and golden setae. Postpronotum brown dorsally and yellow ventrally, with narrow dark scales, like scutal scales, posterodorsal margin with 3–5 upper dark and lower golden setae. Pleural integument pale yellow; with shiny golden yellow setae; pleural setae: about 9–11 upper proepisternal, 4–7 prealar, 5–8 upper mesokatepisternal, 8–10 lower mesokatepisternal, 5–7 upper mesepimeral and 1 lower mesepimeral. Pleura with scales on mesokatepisternum: a small patch of pale spatulate scales on lower posterior border and sometimes with 2,3 colorless spatulate scales on upper corner. *Wing* (Figs. 5, 6): Length 2.77–3.04 mm, mean 2.87 mm; mostly dark-scaled, with a minute patch of clear scales on base of costa; cell R_2 3.48–5.17 of vein R_{2+3} , mean 4.37; cell M_2 0.71–0.75 of cell R_2 ; subcosta intersects costa before furcation of R_{2+3} . Dorsal scaling: appressed spatulate scales on costa, subcosta, R , R_1 , R_{4+5} , distal 0.5 of M_{1+2} , M_{3+4} , Cu , Cu_1 , Cu_2 and basal 0.5 of 1A; linear plume scales on R_s , R_{2+3} and M ; inclined narrow spatulate scales on R_2 , R_3 , proximal 0.5 of M_{1+2} and distal 0.5 of 1A; remigium with appressed spatulate scales and long golden setae distally. Ventral scaling: appressed spatulate scales on costa, subcosta, R_s , R_{2+3} , base of R_2 , base of R_3 and on M ; linear plume scales covering nearly basal 0.5 of R_1 , on basal 0.3 of Cu_1 , Cu_2 and middle of 1A; inclined narrow spatulate scales on distal 0.5 of R_1 , R_2 , R_3 , R_{4+5} ,

M_{1+2} , M_{3+4} , distal 0.7 of Cu_1 and distal 0.6 of 1A; Cu and basal 0.4 of 1A devoid of scales. *Halter*: Yellow, capitellum slightly darker at apex. *Legs*: Anterior surface of forecoxa pale-scaled; anterior surface of midcoxa with longitudinal patch of pale scales; anterior surface of hindcoxa devoid of scales. Antero- and posteroventral surfaces of foretrochanter pale-scaled; midtrochanter with antero- and posteroventral surfaces pale-scaled; antero- and posteroventral surfaces of hindtrochanter pale-scaled. Fore- and midfemora mainly pale-scaled, posterior surface of forefemur with indistinct longitudinal stripe of dingy pale scales, posteroventral surface of midfemur with dingy pale scales, hindfemur with complete dorsal stripe of dark scales distally widening and expanding onto anterior and posterior surfaces at apex. Tibiae and tarsi entirely dark-scaled. *Abdomen*: Tergum I with median posterior patch of dark scales; terga II–VII dark-scaled with basolateral patches of white scales; tergum VIII mainly dark-scaled, with small basolateral patch of white scales. Sterna II–IV white-scaled; sterna V, VI mainly white-scaled, occasionally with mixed dark scales distally; sternum VII infrequently entirely white-scaled, generally with dark scales distally; sternum VIII with lateral patches of white scales. *Genitalia* (Fig. 10): Tergum IX narrowed in middle, lobes each bearing 6–11 setae. Upper vaginal lip narrow, distinct; lower vaginal lip and insula indistinct; about 7,8 insular setae in cluster. Upper vaginal sclerite distinct, inverted U-shaped, chitinized. Postgenital lobe short, distally rounded, with 7–13 setae on either side of midline, setae mostly on ventral surface.

Male.—Like female except for sexual differences as follow. *Head*: Antenna strongly plumose, length about 1.78 mm. Proboscis entirely dark. Maxillary palpus dark, length about 2.52 mm, extending beyond tip of proboscis by about apical 0.5 of palpomere 4 and all of palpomere 5; palpomeres 4 and 5 entirely covered by dark strong setae; pal-

pomere 3 with 8.9 setae at apex. *Abdomen*: Tergum II entirely dark-scaled; tergum III with small basolateral white patch; terga IV–VII with basolateral white patches; tergum VIII (ventral in position) mostly white-scaled, with deep V-shaped median posterior emargination and several long bristles mixed with shorter setae (Fig. 11); sterna predominantly white-scaled, with small number of dark scales distally on sterna V–VII; sternum VIII (dorsal in position) with basolateral white patches. *Genitalia* (Fig. 11): Ninth tergal lobe small, columnar shaped, widely separate, bearing long and slender setae on 0.5 of distal surface. Gonocoxite stocky, outer margin convex, inner moderately concave; ventrolateral surface with strongly developed setae and small number of scales, mesal surface with small setae in indistinct rows extending from base to level of subapical lobe, lateral surface with sparse patch of slender setae (lsp) from proximal area to level of subapical lobe, proximal part of ventrolateral surface with scales; subapical lobe distinctly divided, divisions approximated; proximal division not divided, lengthened, with an apical infundibular and hyaline expansion partially covering insertions of setae *a* and *b* which are long, enlarged and sinuous with another hyaline, broad and hooked-falciform seta beyond middle and 5–11 long, slender and curved setae from base to level of insertion of hooked-falciform seta; distal division with 2 approximated uneven arms, each bearing an apical setae, proximal arm stronger, distally enlarged, bearing 1 long hooked seta *h2* saberlike setae(s) (one larger than the other) inserted on prominent tubercle near middle of arm, distal arm slender, cylindric, bearing 1 stiff short nearly saberlike seta (*s*) and 4 foliform setae (*f*) (2 similar and 2 slightly larger and dissimilar in size). Gonostylus slender, curved, moderately narrowed distally, crest slightly wrinkled on ventral surface before apical snout; gonostylar claw short, leaf-like broadest apically. Phallosome with lateral plates and aedeagal

sclerites equivalent in length; aedeagal sclerite broad, curved and falciform in lateral view, mostly hyaline, excluding mesal longitudinal sclerotization and more heavily sclerotized area at angle of connection with lateral plate, dorsal end narrowly fused to base of lateral plate; lateral plate long, columnar shaped, apical process with blunt and rounded apex, lateral and ventral processes absent, dorsal process sclerotized and separated from margin of aedeagal sclerite by distinct angle; aedeagal sclerites connected by dorsal aedeagal bridge. Proctiger elongate; paraproct distally narrowed, basally expanded, base articulated with posterolateral margin of tergum X, crown with row of about 6 short, simple blades; cercal sclerite long and narrow, sclerotized, broadest basally; 2,3 small cercal setae. Tergum X large, rectangular, concavo-convex, dorsal surface concave.

Material examined.—Sixty specimens examined from several localities in São Paulo State, Brazil, as follows: 41 ♀♀ (Experimental Station, Pariquera-Açú, I.81, XI.81, XII.81, I.82, 12; Biguá Road, Iguape, IX.82, X.82, XI.82, 28; Santa Helena Farm, São João da Boa Vista, XI.81, 1). 19 ♂♂ (Pariquera-Açú, urban area, XI.79, 1; Pariquera-Mirim, Pariquera-Açú, V.85, VI.85, 2; Itapuan, Itapitanguí, Cananéia, V.80, XII.80, I.81, II.81, III.81, IV.81, XI.81, 11; Biguá Road, Iguape, X.82, 2; Santa Helena Farm, São João da Boa Vista, III.82. 3) Iguape, Cananéia and Pariquera-Açú, are located between 24.0°–25.0°S and 47.0°–48.0°W, São João da Boa Vista is 22.0°S and nearly 47.0°W.

Distribution and bionomics.—*Culex del-pontei* is reported here for the first time from Southern Brazil. It has also been found in Paraguay and Northern Argentina as next related (Duret 1953, 1968; Sirivanakarn and Jakob 1981; Mitchell et al. 1985). Its distribution is in the southern range of subgenus *Melanoconion* (Fig. 13): ARGENTINA.—*Chaco*: Las Palmas (type locality); Puerto Bermejo; Resistencia, San Fernando

Dept.; Antequera, I de Mayo Dept.; *Corrientes*: Rincon de Vences, General Paz Dept.; *Santa Fe*: Esperanza, Las Colonias Dept.; San Justo, Sanjusto Dept. PARAGUAY.—Puerto-í, San Pedro Dept.; Toldo-cué, Concepción Dept.; San Pedro, San Pedro Dept.; Puerto Pinasco, Boquerón Dept.

Little is known about the bionomics of this mosquito. Swamps and riversides covered by aquatic plants, such as *Pistia*, may shelter gravid females (Mitchell et al. 1987a). It is assumed that these would also be suitable places for oviposition. In Argentina *Cx. delponte* was collected with chicken and hamster baits, and one specimen from a horse. Blood meal identification from engorged females showed one fed on an amphibian, a few others on several mammal species (mainly rodents), and two contained a mixture of avian and mammal blood (Mitchell et al. 1987a, b).

As mentioned above, several viral strains were isolated from collected *Cx. delponte* in Northern Argentina. The Venezuelan equine encephalitis virus subtype VI and several Bunyaviridae were found in this mosquito in the Chaco and Santa Fe Provinces. These findings support it as a possible vector in enzootic patterns of these viruses. In addition, a disproportionate number of virus isolates (18 of 40 in Chaco and 5 of 16 in Santa Fe), suggests the possibility of transovarial transmission (Mitchell et al., 1985, 1987a).

Taxonomic discussion.—*Culex delponte* was described by Duret (1968) who based his description on adult males from Argentina and Paraguay, including a specimen which he later (1953) identified as *Cx. paracrybda* Komp. Later, Sirivanakarn and Jakob (1981) partially described the female of *delponte* including a brief reference to the cibarial armature. According to the classification proposed by Sirivanakarn (1982), *Cx. delponte*, *Cx. paracrybda* and *Cx. pereyrai*, constitute the Paracrybda Group of the Spissipes Section. Including the char-

acters recognized by Rozeboom and Komp (1950) and Duret (1968) for *Cx. paracrybda*, the distinction among those three species may be made as follows: Scutal and pleural integuments and pleural setae are brown with the scutal and pleural areas not sharply contrasted in *paracrybda*, while there is a well-marked contrast in *delponte* and *pereyrai* where the pleural integument is yellow or yellowish. In *pereyrai* the pleural integument bears a pattern of dark spots on the upper proepisternum, postspiracular area, prealar knob, lower anterior surface of the mesokatepisternum and an indistinct spot on the upper corner of the mesokatepisternum. In *delponte* there is no pleural pattern, and this species and *pereyrai* both have shiny yellow to golden pleural setae. The tarsi are entirely dark in *delponte* while there are pale rings across joints of the tarsomeres and tarsomere 5 is entirely white in *paracrybda* and *pereyrai*. *Culex ocosa* Dyar and Knab also have pale pleural integument, but this species has a pattern of darker areas on the prealar knob, postspiracular area and lower anterior surface of the mesokatepisternum which separates it from *delponte*.

In the male genitalia the lateral plate (LP) of both *delponte* and *paracrybda* have only the apical process which appears as a beak-like hook at the apex in *paracrybda* and is apically blunt and rounded in *delponte*. Apical, lateral and ventral processes of the lateral plate are present in *pereyrai*. The distal arm of the distal division of the subapical lobe (dSL) has four foliform setae clustered at the apex in *delponte* and *paracrybda* while in *pereyrai* there is one apical foliform seta and three subapical clustered foliform setae. The proximal arm of the distal division of the subapical lobe (dSL) is enlarged in *delponte* and narrowed in *paracrybda*. Moreover, the basal seta of the proximal arm is foliform in *pereyrai* while it is saberlike in *delponte* and *paracrybda*. The slender setae on the basolateral surface of the proximal division of the subapical lobe (pSL) are

longer in *delpontei* than in *paracrybda* and *pereyrai*. The ninth tergal lobes are columnar shaped in *delpontei* and *paracrybda* and club shaped in *pereyrai*.

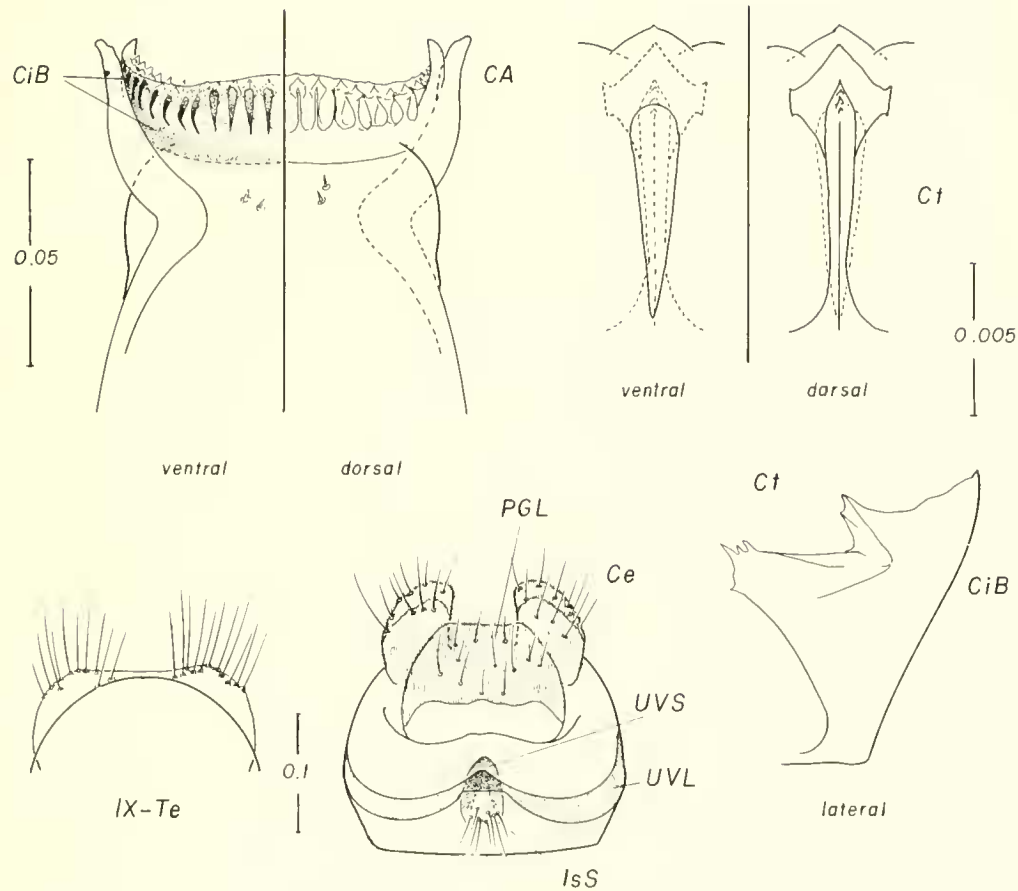
Culex (Melanoconion) pereyrai Duret
Figs. 7-9, 10, 12, 13

Culex (Melanoconion) pereyrai Duret 1967: 77 (type not seen; type locality Paraguary, Caaguazú, Cecilio Baéz; holotype deposited in the collection of the author specie (Knight and Stone 1977)), Galindo 1969: 88 (tax.). Sirivanakarn 1982: 265 (tax.).

Female.—*Head*: Antenna dark, length about 2.10 mm; flagellum normal, whorls with 6 setae. Proboscis entirely dark-scaled, length 1.63–1.81 mm, mean 1.73 mm. Maxillary palpus entirely dark-scaled, length 0.27–0.37 mm, mean 0.31 mm, about 0.2 of proboscis length. Vertex (Fig. 7) with narrow falcate scales, predominantly pale whitish laterally, dark in small median area, small patch of broad appressed dingy white scales along margin of eye; forked scales numerous, dark; occipital region with some pale whitish falcate scales. *Cibarial armature* (Figs. 8, 9 and 10). Practically indistinguishable from that of *Cx. delpontei*. Surface of cibarial bar not so noticeably folded and sometimes with some thorn-shaped processes on posterior border; cibarial teeth double but posterior part frequently with small thorn-shaped folds on ventral surface. *Thorax*: Scutal integument brown, covered with fine falcate shiny bronze-colored scales, uniform in size, with some pale scales on prescutellar area; scutal setae developed, brownish black with reddish sheen; acrostical setae absent. Scutellar scales as scutal scales, pale on lateral lobes and entirely dark or mixed with some pale ones on median lobe; lateral lobes each with 4 large setae, median lobe with 6 long setae. Integument of antepnotum similar to scutal integument, without scales and with some dark setae. Postpronotal integument brown with narrow dark scales similar to scutal ones;

posterolateral margin with 3–5 dark setae. Pleural integument pale with distinct darker spots on upper proepisternum, postspiracular area, prealar knob, lower anterior surface of mesokatepisternum and an indistinct spot on upper corner of mesokatepisternum. Pleural setae yellowish with golden sheen, brownish black on prealar knob: about 6–11 upper proepisternal, 5, 6 prealar, 5–8 upper mesokatepisternal, 7–10 lower mesokatepisternal, 4–8 upper mesepimeral and 1 lower mesepimeral. Pleuron with small patch of pale spatulate scales on lower posterior border of mesokatepisternum. *Wing*: Length 2.80–3.13 mm, mean 2.96 mm; scales dark; length of cell R_2 nearly 4.3 of vein R_{2+3} ; cell M_2 nearly 0.8 length of cell R_2 ; subcosta intersects costa at level of furcation of R_{2+3} . Dorsal scaling: appressed spatulate scales on costa, subcosta, R , R_1 , R_{4+5} , distal 0.8 of M_{1+2} , M_{3+4} , Cu , Cu_1 , Cu_2 and proximal 0.5 of 1A; linear plume scales on R_5 , R_{2+3} , M and proximally on M_{1+2} ; inclined narrow spatulate scales on R_2 , R_3 and on distal 0.5 of 1A; remigium with appressed spatulate scales and 1, 2 long distal setae. Ventral scaling: appressed spatulate scales on costa, subcosta, R_5 , R_{2+3} , proximal 0.2 of R_2 and R_3 , M and proximal 0.2 of M_{1+2} ; linear plume scales on proximal 0.5 of R_1 , proximally on R_{4+5} , proximal 0.5 of Cu_1 , Cu_2 and middle of 1A; inclined narrow spatulate scales on distal 0.5 of R_1 , proximal 0.8 of R_2 and R_3 , R_{4+5} , distal 0.8 of M_{1+2} , M_{3+4} , distal 0.5 of Cu_1 , and distal part of 1A; Cu and proximal 0.5 of 1A without scales. *Halter*: Entirely pale. *Legs*: Anterior surface of forecoxa dark-scaled; anterior surface of mid- and hindcoxae with longitudinal patch of nearly colorless scales. Antero- and posteroventral surfaces of foretrochanter dark-scaled, mid- and hindtrochanters with antero- and posteroventral surfaces pale-scaled. Fore- and midfemora mainly dark-scaled, posterior surface of forefemur with indistinct longitudinal stripe of dingy pale scales, posteroventral surface of midfemur with dingy pale scales, hindfemur

Cx.(Mel.) delpontei



Cx.(Mel.) pereyrai

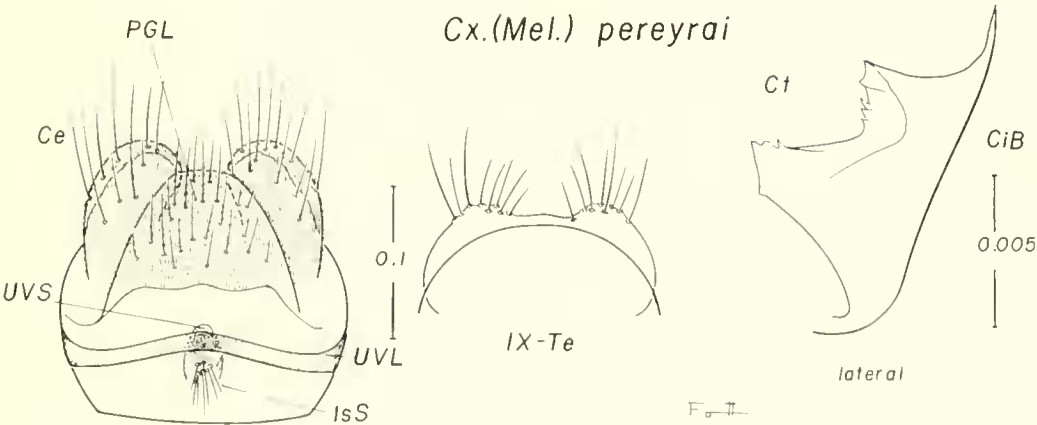
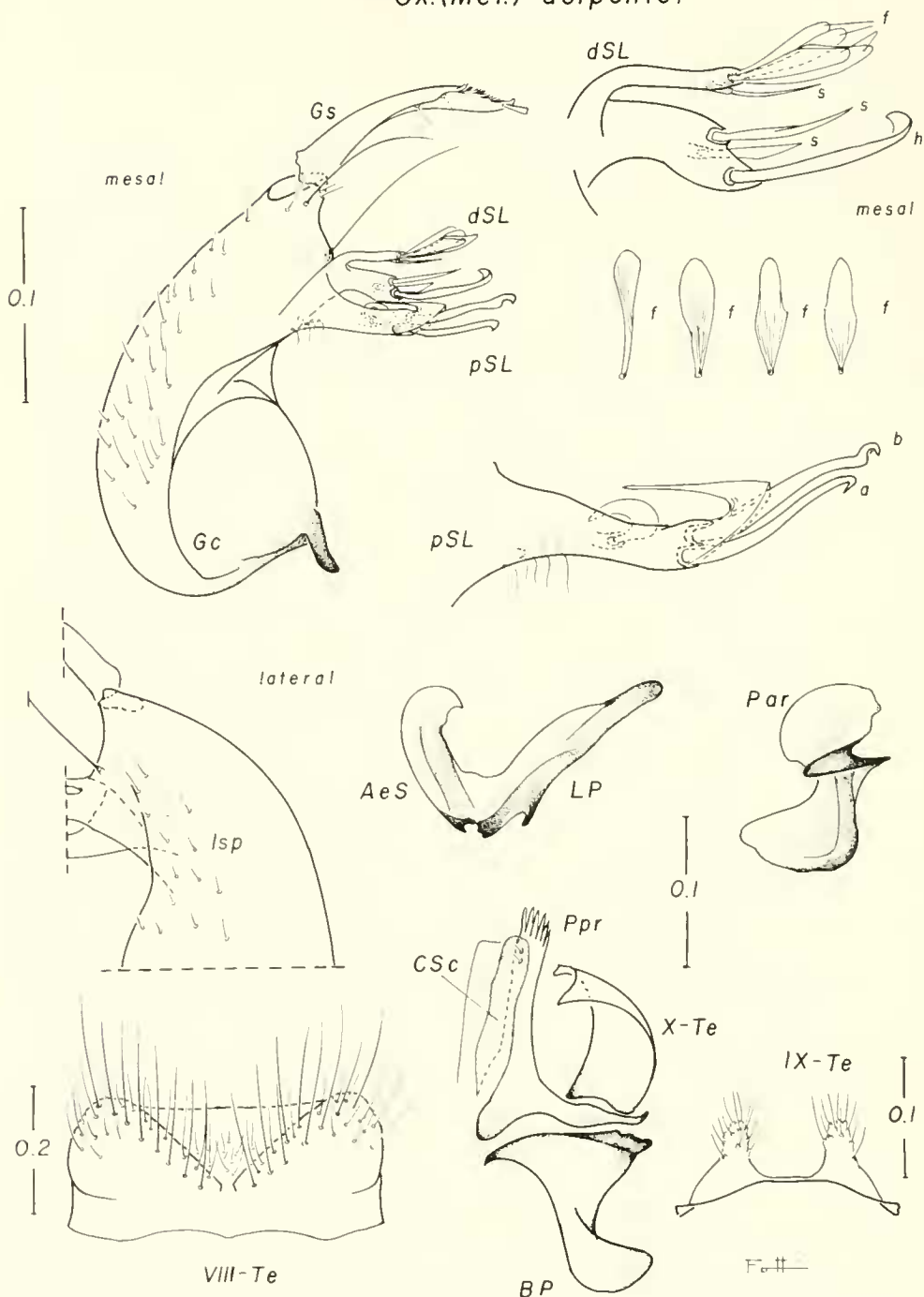
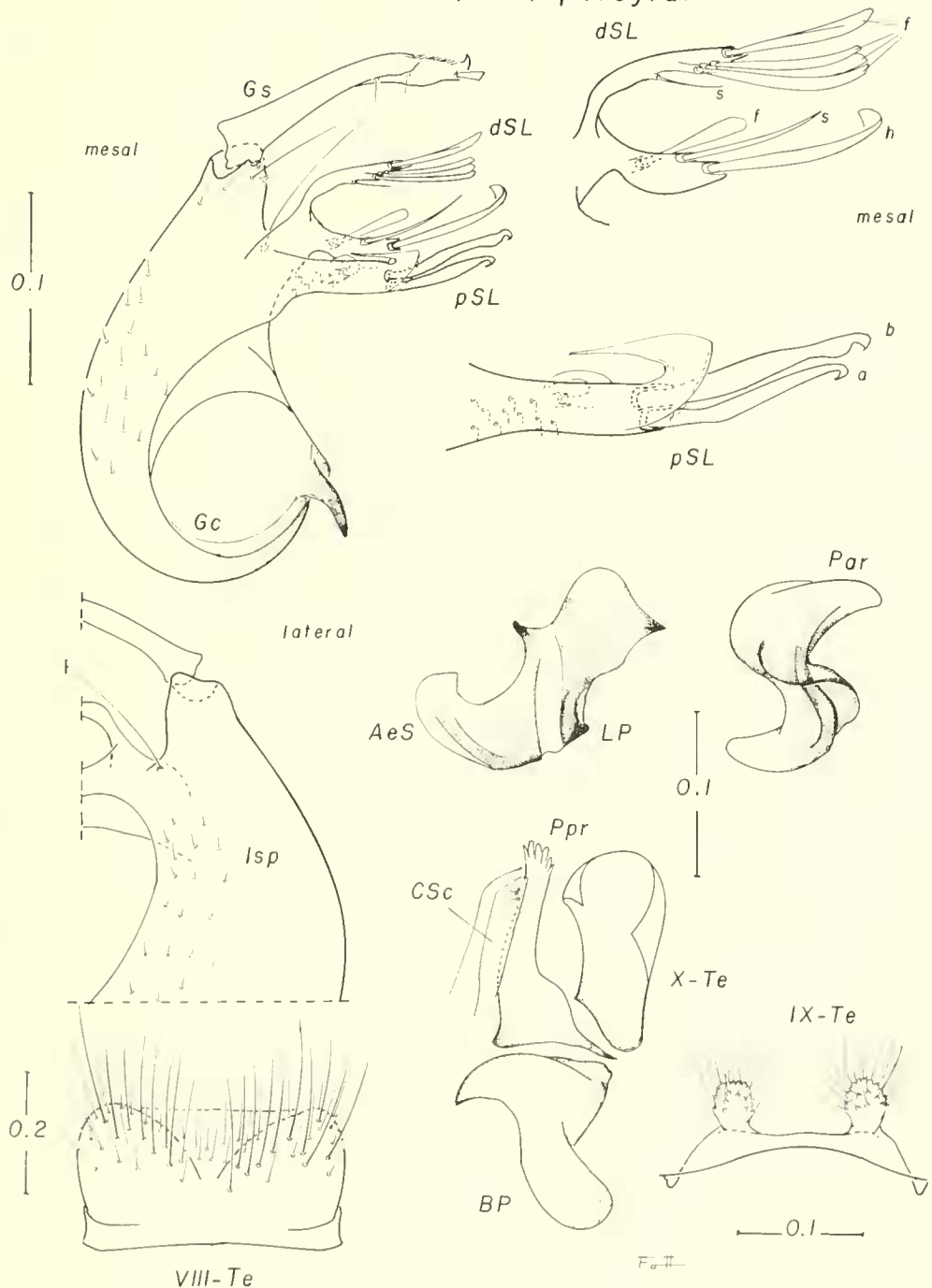


Fig. 10. Female cibarial armature and genitalia of *Culex delpontei* and *Cx. pereyrai*. CA, cibarial armature. Ce, cercus. CiB, cibarial bar. Ct, cibarial tooth. IsS, insular setae. PGL, postgenital lobe. UVL, upper vaginal lip. UVS, upper vaginal sclerite. IX-Te, tergum IX. (Scale in mm.)

Cx. (Mel.) delpontei

Figs. 11 and 12. Male genitalia of *Culex delpontei* and *Cx. pereyrai*. a, seta *a* of pSL. AeS, aedeagal sclerite, *b* seta *b* of pSL. BP, basal piece. CSc, cercal sclerite. dSL, distal division of the subapical lobe. f, foliiform seta. Gc, gonocoxite. Gs, gonostylus. h, hooked seta of dSL. lsp, lateral setal patch. LP, lateral plate. Par, paramere.

Cx. (Mel.) pereyrai



Ppr, paraproct. pSL, proximal division of the subapical lobe. s, saberlike seta. VIII-Te, tergum VIII. IX-te, tergum IX. X-Te, tergum X. (Scale in mm.)

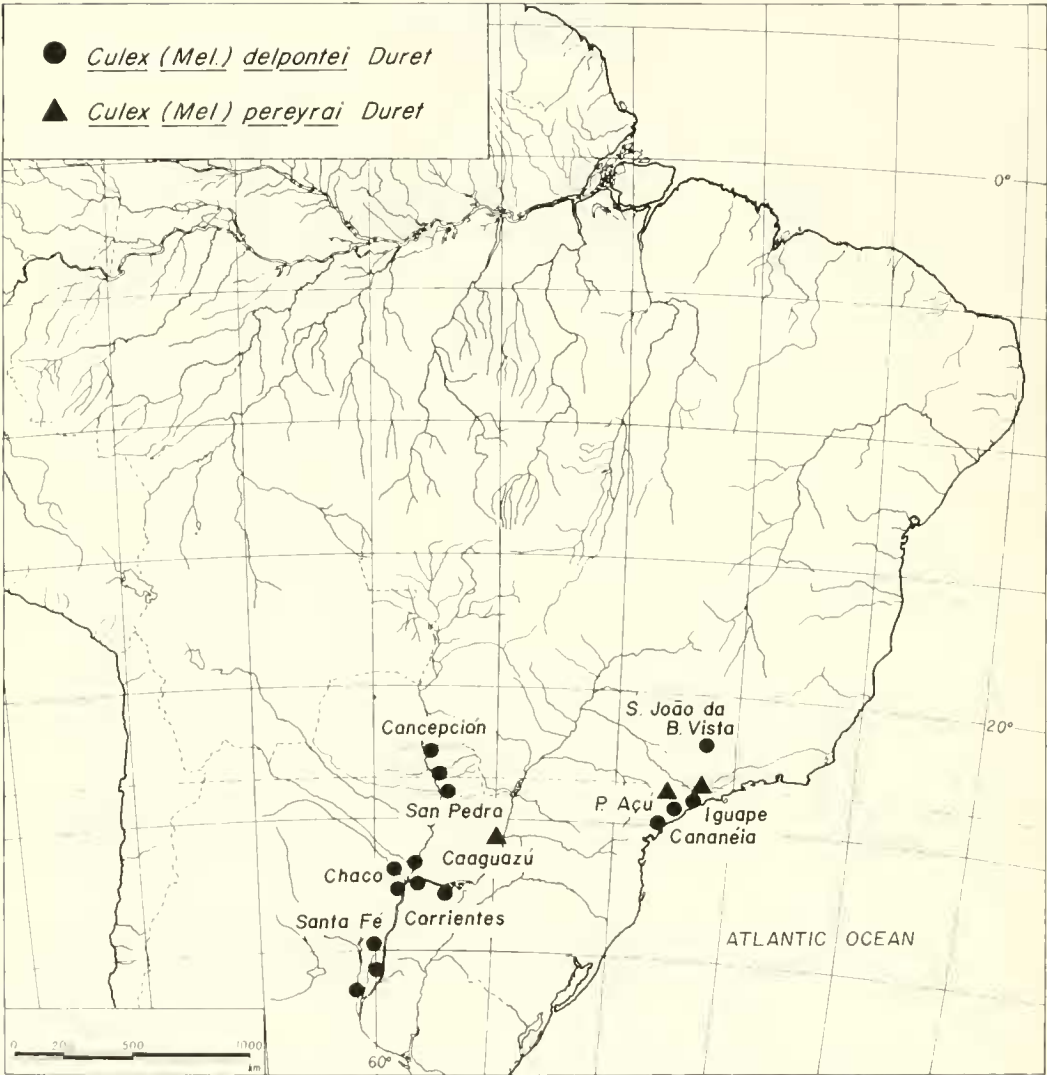


Fig. 13. Distribution of *Culex delpontei* and *Cx. pereyraei* in South America.

with complete dorsal stripe of dark scales distally widening and expanding onto anterior and posterior surfaces at apex. All tibiae with indefinite longitudinal dingy pale stripe of scales on posterior surface. Ta-I₁ and Ta-II₁ with indistinct longitudinal dingy pale stripe on posterior surface, more evident at apex, Ta-I₂-Ta-I₄ and Ta-II₂-Ta-II₄ with indefinite pale bands on joints, Ta-I₅ and Ta-II₅ paler, hindtarsus with distinct narrow basal and apical white bands at joints

of tarsomeres 1-4, Ta-III₅ entirely white. *Abdomen:* Tergum I with median posterior patch of dark scales, tergum II dark-scaled with small basolateral patches of white scales, terga III-VIII dark-scaled with basolateral patches of white scales, sometimes appearing as narrow basal pale bands on terga IV-VI, bands more evident on IV and V. Sterna II-VII with broad basal white bands, sternum II sometimes entirely white-scaled; sternum VIII with lateral patches of

white scales, occasionally mixed with some dark ones. *Genitalia* (Fig. 10): Tergum IX narrow at middle, widened at posterolateral margin to produce flat lobe bearing 7–9 slender setae. Upper vaginal lip distinct, narrow; lower vaginal lip and insula indistinct, insula with about 7–9 clustered setae. Upper vaginal sclerite discrete, with inverted U-shape. Postgenital lobe short, distally with 10–17 setae on either side of midline, mostly on ventral surface.

Male.—Like female except for sexual differences as follow. *Head*: Antenna strongly plumose; length about 1.77 mm. Proboscis and maxillary palpus entirely dark, palpus length about 2.62 mm, exceeding proboscis tip by length of palpomere 5 and 0.9 of palpomere 4; palpomeres 4 and 5 densely setose; palpomere 3 with 6–8 apical setae. *Abdomen*: Tergum II entirely dark-scaled or with few white scales on basolateral areas; terga III–V with basal white bands; terga VI, VII not examined; tergum VIII (ventral in position) with basolateral white patches, deep V-shaped median posterior emargination and several long bristles mixed with shorter setae (Fig. 12); sternum II with white scales mixed with some dark ones; sterna III–V with basal white bands; sterna VI–VIII not examined. *Genitalia* (Fig. 12): Ninth tergal lobes small, slightly globose, club-shaped, widely separated, bearing long and slender setae. Gonocoxite stocky, outer margin convex, inner moderately concave; ventrolateral surface with strongly developed setae, mesal surface with small setae in indistinct rows extending from base to level of subapical lobe, lateral surface with patch of sparse short and slender setae (lsp) at proximal region up to level of subapical lobe, proximal part of ventrolateral surface with 1,2 scales; subapical lobe distinctly divided, divisions approximated; proximal division not divided, lengthened, with an apical infundibular and hyaline expansion partially covering insertions of setae *a* and *b* (setae *a* and *b* long and sinuous) with another hyaline, broad and hooked-falci-

form seta beyond middle, and 9–14 short, slender and curved setae from base to level of insertion of hooked-falciform seta; distal division with 2 fairly well separated uneven arms, proximal one stronger, bearing 1 long hooked seta (*h*), 1 saberlike pointed seta (*s*) and 1 shorter foliiform seta (*f*) inserted on prominent tubercle near middle of arm; distal arm slender, cylindric, bearing 1 stiff, short, nearly saberlike seta (*s*) inserted near middle of arm, 3 foliiform setae (*f*) on distal 0.3 of arm, 1 longer nearly foliiform seta (*f*) inserted separately at tip of arm. Gonostylus slender, curved, moderately narrowed distally, crest slightly wrinkled on ventral surface before apical snout; gonostylar claw short, leaflike, apically broadest. Phallosome with lateral plates and aedeagal sclerites equivalent in length; aedeagal sclerite broad, curved and falciform in lateral view, more sclerotized area at angle of connection with lateral plate and at mesal longitudinal sclerotization, dorsal end narrowly fused to base of lateral plate; distal part of lateral plate with apical, ventral and lateral processes, apical process short, broad at base, rounded at apex, ventral process curved laterally, lateral process slender, nearly pointed and dorsolaterally directed, dorsal process sclerotized and separated from aedeagal sclerite margin by distinct angle; aedeagal sclerites connected by dorsal aedeagal bridge. Proctiger elongate; paraproct narrow distally, expanded basally, base articulated with posterolateral margin of tergum X, crown with row of 5–7 short simple blades. Cercal sclerite long and narrow, sclerotized, broadest basally; 3,4 small cercal setae. Tergum X large, rectangular, concavo-convex, dorsal surface concave.

Material examined.—Fifty-five specimens examined from localities in São Paulo State, Brazil, as follows: 25 ♀♀ (Experimental Station, Pariquera-Açú, II.79, XII.79, IV.80, VIII.80, XI.80, XII.80, I.81, II.81, III.81, IV.81, VI.81, 13; Biguá Road, Iguape, X.82, XI.82, 12). 30 ♂♂ (Experimental Station, Pariquera-Açú, I.80, II.80, IV.80, XI.80,

II.81, III.81, IV.81, V.84, VII.84, V.85, 25; Pariquera-Mirim, Pariquera-Açú, VII.84, I.85, V.85, 3; Biguá Road, Iguape, X.76, 2).

Distribution and bionomics.—Until now, *Cx. pereyrai* was known only from the male holotype (type locality Paraguay, Caaguazú, Cecílio Baéz). The collections reported here extend its distribution to the localities in southern Brazil (Fig. 13).

Nothing is known about the larval habitats and little data are available about the adult habits. The collections reported here were made in patches of residual forests in modified rural areas. A few specimens were caught near houses.

Taxonomic discussion.—*Culex (Melanoconion) pereyrai* was described by Duret (1967) based on one adult male from Paraguay. Additional specimens of this species were unavailable until now. Sirivanakarn (1982) placed this species in the Paraerybda Group of the Spissipes Section where itself constitutes the Pereyrai Subgroup. The distinction with *Cx. delpontei* Duret and *Cx. paracrybda* Komp has already been discussed.

Since *Cx. pereyrai* has Ta-III₅ entirely white, distinction must be made with other species of the Spissipes Section that share this character as *Cx. epanastasis* Dyar, *Cx. pedroi* Sirivanakarn and Belkin, *Cx. sacchettae* Sirivanakarn and Jakob and *Cx. taeniopus* Dyar and Knab. Including the characters noted by Sirivanakarn (1978) and Sirivanakarn and Belkin (1980), distinction can be made as follows.

The pale pleural integument with a pattern of darker spots, separates *pereyrai* from *epanastasis*, *pedroi* and *taeniopus* which have an entirely dark integument. From *sacchettae*, which also has a pale pleural integument, distinction can be made by the darker spots on the upper corner of the mesokatepisternum and on the mesepimeron which *pereyrai* lacks. In addition, *taeniopus* has a cluster of pale scales on the upper corner of the mesokatepisternum, while *epanastasis* and *pedroi* have clusters

of white scales on the femoral apices, characters absent in *pereyrai*.

The female cibarial armature of *pereyrai* is quite similar to that of *delpontei* and *Cx. ocosa* Dyar and Knab. The latter two species are distinguished by the absence of pale bands on the legs.

Finally, it is interesting to note that the male genitalia of *pereyrai* is similar not only to *delpontei* and *paracrybda*, but also to *Cx. adamesi* Sirivanakarn and Galindo, *Cx. crybda* Dyar, *epanastasis*, *pedroi* and *Cx. ribeirensis* Forattini and Sallum. In all the species the subapical lobe of the gonocoxite has an infundibular process and one hook-shaped seta on the proximal division and the distal division is subdivided into two arms, the proximal one with 3 setae and the distal one with 4 setae.

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